



# California Regional Water Quality Control Board

## Los Angeles Region

Winston H. Hickox  
Secretary for  
Environmental  
Protection

Over 50 Years Serving Coastal Los Angeles and Ventura Counties  
Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>



Gray Davis  
Governor

August 12, 2003

Mr. Curt Christensen  
Square D Company  
1717 Centerpark Road  
Lincoln, Nebraska 68512

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
CLAIM NO. 7001 1140 0000 1126 7821

Dear Mr. Christensen:

### **GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER REMEDIATION AT PETROLEUM HYDROCARBON FUEL AND/OR VOLATILE ORGANIC COMPOUND IMPACTED SITES – FORMER SQUARE D FACILITY, 4335 EAST VALLEY BOULEVARD, LOS ANGELES, CALIFORNIA (SLIC FILE NO. 852 SITE ID NO. 2045M00)**

We have completed our review of your application for Waste Discharge Requirements to use In-situ Reactive Zone system (IRZ) to remediate the volatile organic compounds (VOCs)-contaminated groundwater at the site.

Square D Company formerly owned and operated an electric component manufacturing facility located at 4335 East Valley Boulevard in Los Angeles from 1946 to 1987 (Figure 1). The site lies at the boundary of two groundwater basins, San Gabriel Valley Basin and the Central Los Angeles Coastal Plain Basin. The discharge point lies 118° 11'29" longitude and 34°3'49" latitude.

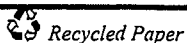
In 1993, groundwater and soil contamination of trichloroethene (TCE) related to the former activities of Square D Company was identified at the site. TCE was detected at 2,000,000 micrograms per kilogram (µg/kg) in the soil and 310 micrograms per liter (µg/l) in the groundwater. Further investigations conducted at the site show that TCE contamination in the soil is found in the saturated soils 20 to 30 feet below ground surface (bgs). Groundwater was encountered at 24.62 feet bgs and TCE was detected at concentrations as high as 2,800 µg/l.

On April 23, 2003, the Los Angeles Regional Water Quality Control Board approved a Remedial Action Plan to use In-situ Reactive Zone (IRZ) to remediate the contaminated groundwater. IRZ technology is based on the concept of enhancing natural processes in a groundwater system to drive the condition that is more conducive to degradation. IRZ technology uses a groundwater system with sucrose and carbohydrate source to enhance the biologically mediated reaction. A bacterial community that is capable of fermenting sugars develops in the altered bacterial environment. The anaerobic bacteria use hydrogen, an end product of the sugar fermentation, in reductive dechlorination. Reductive dechlorination transforms the VOCs into less chlorinated intermediates and finally to CO<sub>2</sub> and water.

The remediation plan includes nine IRZ injection wells and five groundwater monitoring wells. Well locations are shown in Figure 2. The IRZ system will initially use a 10% molasses solution and inject 110 gallons of solution into each IRZ injection well per injection event. The volume and concentration of molasses solution and the frequency of injection will be adjusted based on the field monitoring results.

### **California Environmental Protection Agency**

\*\*\*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption\*\*\*  
\*\*\*For a list of simple ways to reduce demand and cut your energy costs, see the tips at: <http://www.swrcb.ca.gov/news/echallenge.html>\*\*\*



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Mr. Curt Christensen  
Square D Company

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Regional Board staff has reviewed the information provided and has determined that, following the installation of at least one groundwater monitoring well to be designated as W-7 in the former wood working source area (AOC-1), the proposed discharge meets the conditions specified in Order No. R4-2002-0030, "General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites," adopted by this Regional Board on January 24, 2002. The well(s) must be constructed and installed using the same materials and methods discussed in your Regional Board approved workplan for installation of groundwater monitoring wells dated February 27, 2002. It is a requirement of the monitoring program to have groundwater monitoring wells within the IRZ injection area that are not utilized as application wells. In the former woodworking area (AOC-1), W-5 can only be used as an application well and in the former sanding and painting area (AOC-2), W-2 can only be used as a monitoring well.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2002-0030 (Series No. 031) and Monitoring and Reporting Program No. CI-8608.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment (August 12, 2003) under Regional Board Order No. R4-2002-0030. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, include a reference to No. CI-8608, which will assure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2002-0030 only to the applicant. A copy of the Order will be furnished to anyone who requests it.

If you have any additional questions, please contact Ms. Dionisia Rodriguez at (213) 620-6122.

Sincerely,

*for* *David A. Bacharowski, AEO*  
Dennis A. Dickerson  
Executive Officer

Enclosures:

1. Board Order No. R4-2002-0030
2. Monitoring and Reporting Program No. CI-8608
3. Standard Provisions Applicable to Waste Discharge Requirements (addressee only)

cc: See Mailing List

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Mr. Curt Christensen  
Square D Company

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August 12, 2003

MAILING LIST

Mr. Robert Sams, Office of Chief Counsel, State Water Resources Control Board  
Mr. Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board  
Mr. Alan Hsu, Los Angeles Regional Water Quality Control Board  
Mr. Jeffrey Friedman, Arcadis G&M, Inc.  
Ms. Carol Williams, San Gabriel Basin Watermaster  
Mr. Jose Reynoso, Los Angeles County Department of Health Services, Water Well  
Permits  
Ms. Vera Melnyk-Vecchio, State Department of Health Services, Drinking Water Field  
Operations

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